1: J Immunol. 1999 Jun 1;162(11):6880-92.

Human breast carcinoma patients develop clonable oncofetal antigen-specific effector and regulatory T lymphocytes.

Rohrer JW, Barsoum AL, Dyess DL, Tucker JA, Coggin JH Jr.

Department of Microbiology and Immunology, University of South Alabama College of Medicine, Mobile 36688, USA.
jrohrer@jaguar1.usouthal.edu

Oncofetal Ag (OFA) is a 44-kDa glycoprotein expressed during early to mid-gestation fetal development and re-expressed as a surface Ag by tumor cells soon after transformation. The Ag is detectable on all types of human and rodent tumors tested, but is undetectable on normal cells. In experimental animals it is autoimmunogenic and induces potentially protective T cell responses both after experimental immunization and during tumor development subsequent to carcinogenic insult. To determine whether this tumor-associated Ag is also immunogenic for human T lymphocytes, breast carcinoma patients' peripheral blood mononuclear leucocytes were stimulated in vitro with autologous tumor cells in the presence of IL-2, gamma-IFN, and IL-6 for 2 wk. The tumor-reactive cells were then restimulated and cloned by limiting dilution, and the clones were analyzed. We established 24, 19, 11, and 16 tumor-reactive clones from the four respective patients. Of those, 4, 6, 4, and 7, respectively, proliferated specifically to purified OFA. Both CD4 and CD8 OFA-specific clones were established, which responded equally well to purified OFA or 32- to 44-kDa immature laminin receptor protein. All were CD3+, TCR-alpha beta+. All CD4 clones secreted gamma-IFN, but neither secreted IL-4 nor IL-10. Both IFN-gamma-secreting cytotoxic CD8 clones and IL-10-secreting inhibitory CD8 clones were established. Thus, during human cancer development, the same types of OFA-specific effector and regulatory T cells are induced as during murine T lymphomagenesis.

PMID: 10352310 [PubMed - indexed for MEDLINE]

Note: Performing your original search, ***oncofetal antigen and epitopes***, in PubMed will retrieve ***156*** citations.

1: Mol Immunol. 1991 Jul;28(7):703-10.

Epitope analysis of the oncofetal antigen alphafetoprotein using monoclonal antibodies.

Chakraborty M, Mandal C, Mandal C.

Indian Institute of Chemical Biology, Calcutta.

Alphafetoprotein (AFP), an oncofetal antigen, plays very important roles in the early embryonic life and oncogenesis. Under various physiological and pathological conditions AFP exhibits microheterogeneity, probably as a result of differential expression of its epitopes. To analyse the epitopes we have developed a panel of monoclonal antibodies against human AFP purified by a new and efficient method using an immunoadsorbent consisting of polyclonal antibodies immobilized on cyanogen bromide activated Sepharose. Clones producing antibodies of various isotypes, e.g. IgG1, IgG2a, IgG2b, IgA and IgM have been subcloned and characterized. The antibodies showed high avidity for AFP (with half-maximal binding concentrations between 0.012 and 3.87 nM). Mutual inhibition efficiencies of a panel of 14 monoclonal antibodies were determined by RIA. Based on these inhibition data a computer program was used to group these antibodies with respect to their "epitope specificity distance". As a result of this grouping, clones have been identified which can recognize at least five different epitopes on AFP. This panel of antibodies may be very useful for analysis of the epitopic variation of AFP under various physiological and pathological conditions.

PMID: 1713294 [PubMed - indexed for MEDLINE]